

INDEPENDENT ASSURANCE STATEMENT

Financed Emissions for Vehicle Portfolio

IDFC FIRST Bank Limited (hereafter referred to as 'IDFC') engaged TÜV India Private Limited (TUVI) to provide independent assurance of its reported financed greenhouse gas (GHG) emissions associated with its vehicle financing portfolio for the reporting period 01/04/2023 to 31/03/2024 (the end date of reporting period is in line with the closed date on which Principal Outstanding (POS) data was archived by IDFC in its data dump).

Details of Vehicle Portfolio: 4-Wheeler Vehicle Loan Portfolio for passenger vehicles.

The financed emissions were quantified and reported by the Organization in line with the Greenhouse Gas (GHG) Protocol Corporate Accounting and Reporting Standard, the GHG Protocol for the Financial Sector, and the [Partnership for Carbon Accounting Financials \(PCAF\) Global GHG Accounting and Reporting Standard for the Financial Industry \(2022, Part A: Financed Emissions\)](#).

Our assurance engagement was conducted in accordance with:

- **ISO 14064-1:2018** (GHG inventories and reporting), and
- **International Standard on Assurance Engagements (ISAE) 3410** – Assurance Engagements on Greenhouse Gas Statements.

This Assurance Statement has been prepared exclusively for IDFC in accordance with the terms of our engagement. We have provided this statement to IDFC's for the sole purpose of demonstrating that IDFC has obtained independent assurance. Our Assurance Statement was designed to address the specific requirements of IDFC, based on its needs at the time of engagement. Accordingly, it should not be considered suitable for use by, or reliance upon, any other party or for any other purpose. Any third party who gains access to this report and chooses to rely on it, does so entirely at their own risk. To the fullest extent permitted by law, TUVI accepts no responsibility or liability to any party other than IDFC in relation to this report.

- **The Organization** is responsible for preparing the financed emissions statement in accordance with the applied standards (GHG Protocol, PCAF). This includes defining boundaries, selecting appropriate methodologies, collecting data, and maintaining effective internal controls.
- **Our responsibility** is to provide an independent opinion on whether the reported financed emissions of the vehicle portfolio are prepared, following the requirements stipulated under **Partnership for Carbon Accounting Financials (PCAF) Global GHG Accounting and Reporting Standard for the Financial Industry (2022, Part A: Financed Emissions)**.
- **Subject Matter:** Financed emissions associated with the Organization's Vehicle Portfolio: 4-Wheeler Vehicle Loan Portfolio for the period 01/04/2023 to 31/03/2024, expressed in metric tonnes of CO₂-equivalent (tCO₂e).
- **Criteria Applied:**
 - i. PCAF Global GHG Accounting Standard (2022) – Vehicle Loans and Leases methodology.
 - ii. GHG Protocol – Scope 3, Category 15 (Investments)
 - iii. ISO 14064-1 requirements for quantification and reporting, and
 - iv. International Standard on Assurance Engagements (ISAE) 3410 – Assurance Engagements on Greenhouse Gas Statements

We performed a **limited assurance engagement** in accordance with ISAE 3410. This level of assurance consists of making inquiries, analytical reviews, and limited testing rather than extensive evidence-gathering procedures.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

Our procedures included, but were not limited to:

- 1. Evaluation of Boundaries & Scope**
 - i. Assessed whether the Organization correctly applied PCAF attribution rules to financed emissions.
 - ii. Reviewed inclusion/exclusion of portfolio segments and vehicle types.
- 2. Methodological Consistency**
 - i. Verified use of PCAF vehicle-specific methodologies (e.g., *Partnership for Carbon Accounting Financials (PCAF) Global GHG Accounting and Reporting Standard for the Financial Industry 2022, Part A: Financed Emissions, para 5.6 Motor vehicle loans*),
 - ii. Evaluated assumptions regarding emission factors that are traceable,

- iii. Assumption on the “annual kilometers driven by the vehicles” were estimated conservatively using publicly available data, and the figures were verified and reproduced under the “Data Verification” section below.

3. Data Management

- i. Conducting interviews with IDFC’s management to gain an understanding of the key processes, systems, and controls in place for preparing the Selected Information,
- ii. Reviewing the portfolio data management by assessing its data flows, and comparing these with the descriptive narratives in the submitted GHG model;

4. Data Verification

- i. The reported number of loan cases, tested sampled loan and lease cases/ datasets were considered by IDFC from its archived data dump as on date 31/03/2024 (source FinnOne bank application dump),
- ii. Sample-checked vehicle categories (randomly selected 139 samples) reported data in the GHG worksheet and the corresponding emission factor sourced from “[India GHG Program : India Specific Road Transport Emission Factors](#)” and *PCAF emission factor data base (as IDFC is signatory of PCAF)*.
- iii. Live data check of randomly sampled loan cases data of financial exposure alignment {Agreement ID, Asset Cost Vehicle Category} from FinnOne bank application snapshots for 139 random samples. The Principal Outstanding was applied by IDFC from the dump extracted from IDFC’s FinnOne bank application,
- iv. Verified annual driven data was found conservative compared to referenced publicly available data.

5. Calculation Review

- i. Checked application of the **PCAF attribution factor and GHG calculations:**

$$\text{Attribution factor}_v = \frac{\text{Outstanding amount}_v}{\text{Total value at origination}_v}$$

(with v = vehicle or vehicle fleet)

$$\text{Financed emissions} = \sum_{v,f} \frac{\text{Outstanding amount}_v}{\text{Total value at origination}_v} \times \text{Distance traveled}_v \times \text{Efficiency}_{v,f} \times \text{Emission factor}_f$$

(with v=vehicle or vehicle fleet, f=fuel type)

Table 1: Emission factors and estimated annual drive of the 4-Wheeler vehicle

Vehicle	Emission factor (kgCO2e/km)	Estimated annual drive (km)
Hatchback <1400 CC	0.126	12,000
Hatchback <1400 CC (Gasoline)	0.153	15,000
Compact SUV <1600 CC (Gasoline)	0.166	16,000
MUV <1400 CC Diesel	0.157	18,000
Hatchback <1000 CC Gasoline	0.127	12,000
Hatchback <1600 CC Diesel	0.147	12,000
Sedan <2000 CC Gasoline	0.161	15,000
Small <800 CC LPG	0.149	12,000
Premium Sedan <2500 CC Diesel	0.163	22,000
Sedan <2500 CC Gasoline	0.176	15,000
Premium Sedan <2000 CC Diesel	0.177	22,000
SUV <2000 CC Diesel	0.201	18,000
Premium Sedan <2000 CC Gasoline	0.207	22,000
Electric 4W	0.2079	12,000
Premium SUV <2000 CC Gasoline	0.208	22,000
Premium Sedan <3000 CC Gasoline	0.209	22,000
SUV <2500 CC Diesel	0.21	18,000
Premium SUV <2500 CC Diesel	0.215	22,000
MUV <2500 CC Diesel	0.216	18,000
SUV <3000 CC Diesel	0.220	18,000
MUV <2000 CC Gasoline	0.230	18,000
Premium Sedan >3000 CC Gasoline	0.270	22,000
Premium SUV <3000 CC Gasoline	0.279	22,000
Vehicle	Emission factor (t CO2e/year) (PCAF)	
BMW 320	1.9863	-

- ii. Verified aggregation of results and unit conversions.
- iii. Assessing the appropriateness of the carbon conversion factors applied in the vehicle with reference to traceable data points.

6. Internal Controls and Governance

- i. Assessed adequacy of documentation, internal review mechanisms, and management oversight for financed emissions reporting.

7. Consistency with ISO 14064-1 and GHG Protocol

- i. Reviewed disclosure transparency, data sources, material assumptions, and uncertainties.
 - ii. Confirmed alignment with Scope 3, Category 15 (Investments) under the GHG Protocol.
- a) Our engagement was performed in accordance with ISAE 3410. We planned and performed the assurance procedures to obtain sufficient and appropriate evidence to support our conclusion. While assurance activities provide a reasonable basis for forming our opinion, it is important to recognize that due to the nature of GHG data (involving estimation, assumptions, and reliance on underlying records), there remains an inherent risk that some material misstatements may not be detected.
 - b) This Independent Assurance Statement is strictly limited to the data and information disclosed to the assurance team during the course of the engagement. It does not constitute an endorsement or validation of any environmental claims made by the reporting organization, including but not limited to those related to products, manufacturing processes, packaging, or end-of-life disposal. TÜV does not authorize the use of this assurance statement for the purposes of greenwashing or making misleading environmental claims in public communications or advertisements.
 - c) No external stakeholder interviews were conducted as part of this engagement.
 - d) There is no universally accepted definition of 'sustainable finance' or 'transition finance.' IDFC applies its own ESG-related metrics Reporting Criteria to determine what qualifies under these categories. Different, but valid, definitions may yield materially different results, again affecting comparability. Our review is therefore limited to confirming whether financing meets IDFC's definition at the time of initial recognition, as per its Reporting Criteria. We do not provide assurance on whether these definitions are appropriate for other purposes, nor do we assess their continued applicability over time.
 - e) The reporting of non-financial information is inherently complex, as there is no single established global standard to rely upon. Different, yet acceptable, evaluation and measurement techniques may therefore be applied, which can lead to materially different outcomes and affect comparability between companies and across reporting periods.
 - f) Financed emissions rely on secondary data such as vehicle emission factors, which are subject to uncertainties (e.g., regional differences in vehicle usage, fuel quality, and efficiency). Over time, improvements in data quality, methodologies, and regulatory practices may significantly alter reported results.
 - g) Estimations are sensitive to attribution methodologies (example loan balance vs. collateral value) as per PCAF guidelines.
 - h) Some financed entities may not disclose full data, requiring use of industry-average emission factors.
 - i) Our assurance does not cover future projections, offsets, or reduction targets.

Based on the procedures performed and the evidence obtained, nothing has come to our attention that causes us to believe that the financed emissions of the vehicle portfolio reported by IDFC FIRST Bank Limited for 01/04/2023 to 31/03/2024 are prepared, in all material respects, in accordance with the PCAF Standard, GHG Protocol, and ISO 14064-1 requirements.

Number of active financed cases (POS>0)	GHG emissions (tCO ₂)	PCAF Data Quality Score
61,777	88,482	4

Accordingly, we provide **limited assurance** over the reported financed emissions.

In the context of GHG reporting the following contemporary principles has been observed:

Reporting Principles for defining GHG data reporting quality: The mainstream of the data and information was verified by TÜV's assurance team as per the agreed scope of work as defined above and found to be accurate after the reported data (example zero POS) were revisited by IDFC; for such cases the submitted data was reverified by IDFC. The disclosures related to GHG's reported in a balanced manner and are clear in terms of content and presentation. In our view, the GHG reporting meets the prescribed requirements.

Inclusivity: IDFC has appropriately included the boundary as its 4-Wheeler Vehicle Loan Portfolio. Relevant data owners from the IDFC bank were engaged through structured corporate communication channels. The calculation spreadsheet, developed and maintained by IDFC, describes the approach for emission quantification in a structured, consistent, and transparent manner, aligned with the Partnership for Carbon Accounting Financials (PCAF) Global GHG Accounting and Reporting Standard for the Financial Industry (2022, Part A: Financed Emissions) requirements. While assurance procedures were applied, inherent risks remain in areas such as data accuracy, completeness of source inputs, and consistency of methodologies across facilities.

Materiality: The principle of materiality was applied to ensure that all loan cases applicable to 4-Wheeler Vehicle Loan Portfolio were included. This was ensured by performing consistency check by applying excel function between the reported data and the Principal Outstanding (POS) data downloaded and archived by IDFC. The GHG calculation spreadsheet is updated and reflect actual emission values and material issues. In alignment with stakeholder requirements, IDFC has considered all relevant and significant sources of emissions within the selected scope. Nevertheless, as with all GHG inventories, boundary-setting and estimation techniques may introduce uncertainties that could influence reported values.

Responsiveness: IDFC has demonstrated responsiveness by reporting the PDAF emissions. Concerns relating to GHG reporting are addressed in a timely and transparent manner. GHG information is intended to be disclosed publicly, reflecting IDFC's commitment to stakeholder inclusiveness and accountability. Assurance risks in this area primarily relate to ensuring that stakeholder feedback is consistently captured, assessed, and integrated into future reporting cycles.

Impact: IDFC has established systems to monitor and measure environmental Key Performance Indicators (KPIs) through its GHG reporting framework, here in this case it is emissions from its 4-Wheeler Vehicle Loan Portfolio. This enables management to assess the environmental impact of its operations, track performance over time, and integrate sustainability considerations into decision-making. As GHG data is subject to changes in emission factors, calculation methodologies, and external regulatory requirements, there is a risk that reported impacts may vary in future periods.

- a) Enhance granularity of vehicle-level data by incorporating actual fuel consumption and mileage where possible.
- b) Improve attribution accuracy through alignment with borrower-level enterprise value disclosures.
- c) Increase the traceability of the POS data to accurately calculate the PCAF emissions.
- d) Strengthen data governance, documentation, and periodic internal verification to increase assurance reliability.

In conducting this assurance engagement on the **financed emissions of the vehicle portfolio**, we identified and considered risks inherent in GHG quantification, reporting, and assurance. These risks and their treatment are summarized below:

1. Data Completeness Risk

- a) **Description:** Portfolio data may not fully capture all relevant vehicle loans or leases, leading to potential underestimation or omission of financed emissions. The IDFC bank's data is highly controlled, and while the Assurance Team was able to verify sampled data during the onsite visit, only limited data was submitted by the IDFC to TÜV, due to information security and banking protocols.
- b) **Mitigation:** We reviewed portfolio coverage, and tested samples from the FinnOne bank application to confirm completeness. The reported number of loan cases, tested sampled loan and lease cases/ datasets for POS verified from the data dump as on date 31/03/2024 (source FinnOne bank application).

2. Data Accuracy and Reliability Risk

- a) **Description:** Reported vehicle characteristics (e.g., type, fuel economy, mileage) may be based on borrower declarations or secondary databases or publicly available data (as referenced under Table 1 above), which introduces risk of error.
- b) **Mitigation:** We applied **PCAF data quality scoring** and assessed the proportion of primary versus estimated data. Secondary data reliance was disclosed transparently. The PCAF scoring was '4' for the reporting period.

3. Methodological Risk

- a) **Description:** The application of PCAF methodologies, including attribution factor formulas and emission factor selection, involves professional judgment. Misapplication could materially affect results.
- b) **Mitigation:** We recalculated a representative sample of financed emissions, verified consistency of formulas, and cross-checked with PCAF 2022 guidelines.

4. Boundary and Categorization Risk

- a) **Description:** Incorrect classification of financed emissions under **Scope 3, Category 15 (Investments)** or inconsistent portfolio boundaries may lead to non-compliance with the GHG Protocol and ISO 14064-1.
- b) **Mitigation:** TÜV validated that the financed vehicle portfolio was defined consistently, with clear inclusion/exclusion criteria, and aligned with GHG Protocol reporting requirements.

5. Uncertainty in Emission Factors

- a) **Description:** Vehicle emission factors are subject to variability depending on **fuel type, driving conditions, geographic region, and lifecycle stage** (tank-to-wheel vs. well-to-wheel). These uncertainties may cause deviations in reported emissions. Only for the BMW 320, the annual emission factor (ton CO₂e/yr) is sourced from PCAF.
- b) **Mitigation:** We reviewed factor sources, checked consistency with internationally recognized datasets, and ensured disclosure of methodological assumptions.

6. Attribution Risk

- a) **Description:** The PCAF attribution factor (outstanding loan balance divided by borrower's enterprise value or vehicle value) may introduce uncertainty if borrower financials are incomplete or outdated.
- b) **Mitigation:** We tested attribution calculations, reviewed consistency across loan/lease segments, and confirmed disclosure of applied assumptions on sample basis by performing consistency check with the FinnOne bank application. It was noted that data migration caused anomalies in the reported data (especially POS). The data was checked and resubmitted by the IDFC with the revised calculations.

7. Assurance Evidence Risk (ISAE 3410 Specific)

- a) **Description:** A limited assurance engagement, by its nature, provides a lower level of assurance than reasonable assurance. There is a risk that material misstatements may remain undetected.
- b) **Mitigation:** We designed procedures proportionate to the risk of misstatement, performed analytical review, and obtained sufficient evidence to form our conclusion.

8. Forward-looking Risk

- a) **Description:** Reported financed emissions are based on current loan exposures and available data; they do not represent future portfolio performance or the effect of decarbonisation strategies.
- b) **Mitigation:** Disclosure clarifies that assurance does not extend to forecasts, future targets, or offset claims.

The assurance team complies with quality control standards, ensuring that the engagement partner possesses requisite expertise and the assigned team collectively has the necessary competence to perform engagements in reference with standards and regulations. Assurance team follows the fundamental principles of integrity, objectivity, professional competence, due care, confidentiality and professional behaviour. In accordance with International Standard on Quality Control, TUVI maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

While every effort has been made to obtain sufficient and appropriate evidence in line with **ISAE 3410** and **ISO 14064-3**, certain limitations remain inherent to GHG financed emissions assurance:

- a) Reliance on secondary emission factors and industry averages where borrower-specific data was unavailable;
- b) The results and calculation depends on the input data extracted from the IDFC data dumps;
- c) Potential changes in methodologies as standards (PCAF, GHG Protocol) evolve;
- d) Limited assurance level provides moderate, not absolute, confidence.
- e) Improved data quality, especially POS data will impact the attribution factor and lead to more accurate GHG emission results.

These limitations do not compromise the overall conclusion that the financed emissions statement of the vehicle portfolio is prepared, in all material respects, in accordance with International Standard on Assurance Engagements (ISAE) 3410, ISO 14064-1, the GHG Protocol, and the PCAF Standard.

TUVI expressly disclaims any liability or co-responsibility for decisions made by any individual or organization based on the contents of this assurance statement. The intended user of this assurance statement is the management of IDFC. The management is solely responsible for the preparation and accuracy of the information provided in the GHG emissions spreadsheet, as well as for the underlying processes related to the collection, analysis, and reporting of that information. TUVI's responsibility during this engagement was limited to the verification of GHG inventory and associated emissions disclosed by IDFC (in the GHG spreadsheet), in accordance with the agreed scope of work. This assurance engagement has been conducted under the assumption that all data and information provided to TUVI by IDFC were complete, accurate, and truthful to the best of the organization's knowledge at the time of the verification.

TUVI follows IESBA (International Ethics Standards Board for Accountants) Code which, adopts a threats and safeguards approach to independence. We recognize the importance of maintaining independence in our engagements and actively manage threats such as self-interest, self-review, advocacy, and familiarity. The assessment team was safeguarded from any type of intimidation. By adhering to these principles, we uphold the trust and confidence of our clients and stakeholders. TUVI solely focuses on delivering verification and assurance services and does not engage in the sale of service or the provision of any non-audit/non-assurance services, including consulting.

TUVI is an independent, neutral, third-party providing carbon services, with qualified environmental and Greenhouse gas (GHG) verifier. TUVI states its independence and impartiality with regard to this assurance engagement. In the reporting year, TUVI did not work with IDFC on any engagement that could compromise the independence or impartiality of our findings, conclusions. TUVI was not involved in the preparation of any statements or data included in the spreadsheet/ report, with the exception of this Assurance Statement. TUVI maintains complete impartiality towards any people interviewed during the assurance engagement. The sole responsibility for the preparation and content of the GHG spreadsheet lies with IDFC. TUVI did not interact with IDFC or its stakeholders in any prior engagements which could impair the impartiality of the results and recommendations made in this statement.



For and on behalf of TUV India Private Limited
Date: 20/10/2025
Place: Mumbai, India



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